

# A Planning Process for a Fast Track to IAIMS

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*The strategic planning process that is part of Vanderbilt University's fast track to IAIMS is evolving based on feedback from the process itself. Led by a committee of VUMC's top management, broad-based sub-committees for administration, education, patient care, and research worked initially on the following strategic issues: identifying key external pressures that constrain and provide opportunities, visioning how VUMC might operate in the future, and establishing a mission and high-level goals for information management. Next steps include identifying the critical mass of function that will prompt daily use of the IAIMS by everyone at VUMC and adding groups to focus on information and technology architectures and developing academic informatics. This manuscript gives detailed, practical information about the evolution of the planning process, committees' responsibilities, working relationships, and lessons learned.*

## INTRODUCTION

In July 1991, Vanderbilt University Medical Center (VUMC) initiated a fast track approach to the implementation of an Integrated Advanced Information Management System (IAIMS)[1]. The fast track approach has four elements: 1) an integrated organizational structure combining various operational information management units and the academic informatics program into a single entity to enhance efficiency; 2) technology transfer and network access to remote resources in preference to *de novo* development; 3) parallel IAIMS planning and infrastructure construction; 4) restriction of the scope of the initial IAIMS to permit a manageable implementation project. This approach is intended to provide a truly functional IAIMS within a time period (7 years) associated with other major construction projects such as the building of a replacement hospital.

VUMC's IAIMS planning grant was funded in January 1993. The actual planning process put in place differs in important ways from that suggested in the grant proposal. In addition, the design of the planning process is continually evolving. This

paper discusses the changes to our original proposal and the evolution of the process, and it evaluates approaches that worked well and those that did not.

## PROPOSED PLANNING PROCESS

VUMC's IAIMS grant proposal was written in September 1991 and suggested a planning structure modeled after Duke University's Medical Center Information Systems Advisory Committee (MCISAC)[2]. The proposed structure featured an Information Resources Coordinating Council, chaired by the Associate Vice-Chancellor for Health Affairs (AVCHA) and comprising the chairs of four advisory committees: an Information Policy Advisory Committee; an End-User Function Advisory Committee with four subcommittees focusing upon administration, education, patient care, and research functions; an Information Management Architecture Advisory Committee, and an Academic Informatics Advisory Committee.

This structure reflected three significant changes based upon experience with MCISAC at Duke. First, the VUMC organizational structure had been changed to place leadership of information management at a high level to support integration of involved operational units instead of mere coordination. Accordingly, the committees would directly advise that leadership rather than advising a higher authority to coordinate activities of independent groups. Second, dedicated committees would focus upon policy, end-user function, and architectural issues rather than having end-user focused groups address all issues. Third, the Academic Informatics Advisory Committee would be an added dimension, reflecting the need to coordinate development of the academic informatics effort with planning for the systems infrastructure so that the latter could be the laboratory of the former.

## CHANGING VUMC'S COURSE

Prior to the IAIMS initiative, information systems planning was a function of a steering committee, chaired by the Executive Director of the Hospital

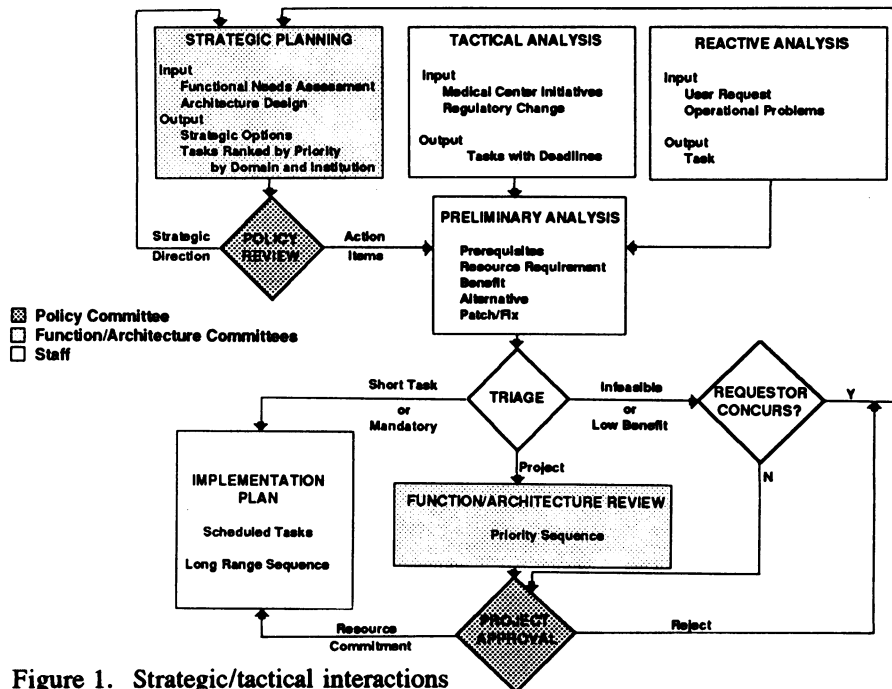


Figure 1. Strategic/tactical interactions

and Clinic. The steering committee determined priorities for development and maintenance projects for the Department of Management Systems. After the recruitment of an AVCHA with responsibility for information technology across VUMC, the steering committee refocused to develop a strategic planning process. After reviewing the process developed at Duke, they identified the need to go a step further by integrating strategic planning with tactical analysis and reactive problem-solving. Figure 1 depicts the proposed process.

At the same time, they worked out a new structure for implementation of the integrated processes, which represented a shift from that proposed for the IAIMS planning grant. The new structure would eliminate the Information Resources Coordinating Council and have the End-User Function Advisory Committee (EUFAC), the Information Management Architecture Advisory Committee (IMAAC), and the Academic Informatics Advisory Committee (AIAC) report to the Information Policy Advisory Committee. At the end of 1991, the steering committee recommended that the new process be implemented and voted to disband.

At that time, three major tactical planning efforts related to information technology were underway. Ground had been broken for a new library facility, a task force was designing a backbone data network

to serve VUMC, and the vendor selection process for a new patient care information system was nearing completion. In addition, the Hospital and Clinic staff were heavily involved in a comprehensive operations improvement process involving work redesign and care pathway management. We decided that implementation of the new strategic planning process should be delayed until key individuals, who would need to be involved in the process, could give the process the time it would require. This delay would also let enough progress be made in the on-going initiatives to demonstrate to the VUMC community that positive changes could really happen at the institutional level and that participation in the planning process would therefore be worthwhile.

#### INFORMATION POLICY ADVISORY COMMITTEE

In the fall of 1992, we reached the point that we could activate the Information Policy Advisory Committee (IPAC). IPAC brings together the key VUMC stakeholders: the Dean of the School of Medicine, Dean of the School of Nursing, Executive Director of the Hospital and Clinic, Director of Ambulatory Care Programs, Director of Financial Management, and Director of Patient Care Services. It is chaired by the AVCHA.

#### Start-Up

IPAC began meeting on a monthly basis in November 1992. Initial consideration was given to

a retreat format for the first meeting. The retreat would have included orientation and work on developing the committee structure. Instead, we decided to blend orientation and education with the business of the committee in monthly two-hour meetings. This approach has worked well.

Prior to the first meeting, the planning coordinator met individually with each IPAC member for feedback on initial drafts of committee mission and charge statements and to share expectations and expected benefits from the planning process. With this input in hand, detailed proposals for organization of the planning process, committee mission and charge statements, and proposed month-by-month schedules and deliverables were prepared for consideration at the first meeting. IPAC reacted well to the use of these "straw man" proposals. They served as examples of what needed to be done; it is much quicker to change detailed proposals to make them acceptable, than to develop them from scratch in committee meetings.

### Committee Structure and Objectives

The initial committee structure approved by IPAC is illustrated in Figure 2. Four functional domain committees for administration, education, patient care, and research report directly to IPAC. In the next year we expect to add two layers to this structure. The first layer, "between" IPAC and the domain committees, will comprise the IMAAC, EUFAC, and AIAC. The second new layer will be one or more tactical planning subcommittees formed around needs identified by the domain committees. The expected structure for the second planning year is shown in Figure 3.

At the time of the steering committee discussions, we intended to implement the complete layered structure at once. The idea was to use the discussion of tactical issues to develop understanding that could be generalized into an overall plan. This approach would keep the planning process focused upon real world problems. The resources that were available for those tactical projects could serve as a funding foundation for the plan. However, as planning time lines were developed, it was apparent that a single planning coordinator would not be able to

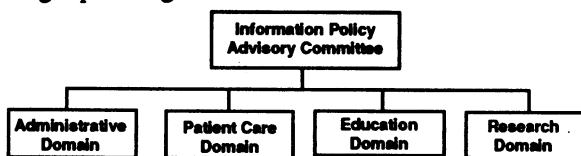


Figure 2. First year planning structure.

activate that many committees at once. In addition, key members of IPAC, who had worked previously with Russell Ackoff's interactive planning model [3], advocated visioning the future environment we wished to create and then looking at how to bridge the gap between the present and the desired future. By building our vision of the institution's future, and then determining the vision's implications for our information technology plan, we are initially focusing upon what we need rather than how to get there. IPAC decided that enough progress was being made with on-going tactical projects that we should take the opportunity to focus purely on strategic issues.

The primary objective for the 1992-93 planning effort would be to develop strategic visions and high level goals for information management across the four domains. The visions would communicate how we expect the medical center to work five to ten years from now and illustrate possible uses of information technology in the "system after next"[4]. This approach would require close collaboration between IPAC and the domain committees and would not require immediate activation of IMAAC or AIAC. Ongoing tactical planning and implementation would proceed independently, at least through June 1993.

### DOMAIN COMMITTEES

The first major task for IPAC was the selection of domain committee chairpersons and members. IPAC agreed that the domain committees should cut across the entire medical center, both horizontally and vertically. IPAC's selection of committee chairs reflects this idea: an associate vice-chancellor for research, chairman of emergency medicine, director of the pharmacy, and assistant professor of pediatrics. The committees are small, working groups, limited to seven members. Each committee's membership reflects a variety of perspectives but does not attempt to represent all of the perspectives related to the domain. Processes

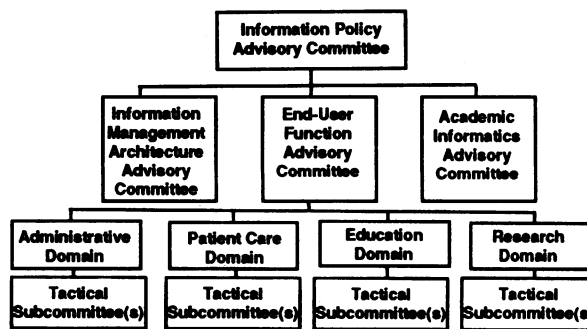


Figure 3. Second year planning structure.

to get representative input will be developed after the small groups come to an understanding of the type of questions that need to be addressed.

### **Broad Scope**

The domains are very broadly defined. The education domain's focus is not limited to the degree granting and clinical practice programs of the Schools of Medicine and Nursing. It includes continuing education, allied health programs, staff training, management development, and patient education. The patient care domain includes admitting, billing and reimbursement, and social services as well as direct patient encounters with health care providers. Thus, the patient care domain committee includes individuals who spend the majority of their days on administrative tasks. In turn, the administrative committee includes individuals with clinical interests.

### **Meetings**

The domain committees meet biweekly for one to two hours, depending on the specific agenda for each meeting. Ad hoc subcommittees are formed as needed and committee members are usually given tasks to complete between meetings. The committees break for the summer after reporting at the June IPAC meeting.

### **Committee Charges**

The committees were initially asked to complete five tasks during the January - June time period:

- (1) Identify and prioritize the key external pressures affecting or expected to affect the domain and identify significant current or planned internal initiatives within the domain. This assignment was intended to provide a context for the committee's visions and to open the committee members' thinking -- to assist them in thinking creatively, not to constrain their views of the future.
- (2) Envision the characteristics of the domain 5 to 10 years from now and provide one or more scenarios to illustrate what and how problems will be solved and work accomplished. The scenarios are intended as "straw man" communication vehicles. They will be used to convey possibilities and to get reactions from broader audiences.
- (3) Evaluate the strengths and weaknesses of existing information management systems relative to the future domain.
- (4) Formulate high-level goals and objectives for information management for the domain and

recommend key initial steps to move information management in the direction of the vision.

The first task, identification of external pressures and internal initiatives, was completed by late February. At that point, recognizing the importance of the visionary scenarios for gaining broad-based support and commitment, IPAC asked the domain committees to devote both March and April to completing the second task. IPAC also agreed that, after presenting the scenarios in early May, the final deliverable in June would be a statement of mission and high level goals for information management from each committee. Although the committees were relieved of the responsibility for evaluating strengths and weaknesses of the existing environment, they were asked to record priority needs and projects that surfaced in discussion.

### **Categorization/Prioritization of Pressures**

After each domain committee developed its list of external pressures affecting the institution and the domain, each committee member independently rated the relative importance of each pressure. These ratings were averaged in an attempt to provide relative measures of priority. As part of this process, two of the committees chose to categorize the pressures prior to rating them.

When the committees presented their results, IPAC found that the categorization was more useful than the prioritization. Committees tended to give greater importance ratings to pressures that are most immediate -- those that are causing the greatest headaches today -- rather than those that may provide the greater long term strategic opportunities. The exercise of categorization, however, forced the committees to think more carefully about the relationships among the individual pressures. The categories also enhanced communication with IPAC by summarizing lengthy lists into key ideas for comparison across domains.

### **Process Facilitation and Recorders**

One of the current challenges for VUMC's Center for Patient Care Innovation (CPCI) is to find ways to merge its Facilitative Leadership (FL) [5] training with everyday work efforts at VUMC so that physicians and other faculty and staff can learn FL methods without having to commit to a three-day training session.

In discussing how to orient the domain committees to FL, we decided that CPCI staff members would act as recorders for each of the committees. The recorder attends each meeting, records committee

ideas and discussion points on butcher paper for all to see, and makes group process recommendations when needed. The recorder also meets periodically with the planning process coordinator (who has had FL training) and the committee chairman to review progress and plan future agendas. This approach proves to be most effective for demonstrating FL when the committee chairman has also had FL training or sees the advantages of FL methods.

Independent of the transfer of FL skills, simply having a trained recorder for each committee has been extremely helpful. In one case, a CPCI staffer was already a member of the committee, and she agreed to take on the recorder's role as well. This approach did not work well. Recording takes so much attention that recorders are unable to contribute fully to the committee's discussion.

#### **Academic Informatics Training**

A Center for Biomedical Informatics (CBMI) faculty member and a biomedical engineering student observe meetings of the patient care domain committee to learn more about IAIMS planning processes and to develop prototypes to demonstrate aspects of future systems. CBMI initially planned to assign students to each committee but could not assure students that the schedule would allow timely completion of a semester project. CBMI may involve students in creating prototypes for the domain scenarios.

#### **NEXT STEPS**

The Information Management Architecture and Academic Informatics Advisory Committees will be formed early in the 1993-94 planning year. In the fall, the domain committees will develop more detailed objectives to support the goals for information management and identify that critical mass of function necessary to get everyone at VUMC to use the IAIMS daily. The chairs of the domain committees will form the End-User Function Advisory Committee, which will coordinate prioritization of information management needs across domains and propose a logical sequence for the planning efforts. Based on the sequence, EUFAC and IPAC will develop tactical planning subcommittees around each major need.

#### **KEY LESSONS**

The planning effort requires testing process ideas to see what works well (and what doesn't). We hope that other institutions will benefit from VUMC's experience. Of course, each institution must

evaluate differences in organizational culture and experience in deciding whether to adopt, and how to adapt, an approach that was successful elsewhere. Some of our lessons are summarized below:

- (1) The planning process must be allowed to evolve.
- (2) Commitment and participation by top management of the medical center is vital.
- (3) Categorization facilitates understanding of relationships and relative importance.
- (4) Dedicated recorders with training in group facilitation are extremely helpful.
- (5) It is much easier for a committee to critique and fix a "straw man" plan than to come up with one from scratch. Extensive preparation pays off.
- (6) With key infrastructure projects underway, strategic planning can occur independent of on-going tactical efforts. Tactical successes increase participants' buy-in to strategic planning.

#### **Reference**

- [1]. Stead WW, Baker W, Harris TR, et al: A Fast Track to IAIMS: The Vanderbilt University Strategy. Proc 16th Symp Computing Appl Med Care, ed. Frisse ME, McGraw-Hill 1993: 527-531.
- [2]. Stead WW, Bird WP, Carter R, et al: IAIMS - The Role of Strategic Planning. Proc 13th Symp Computing Appl Med Care, ed. Kingsland LC, IEEE, 1989:345-349.
- [3]. Ackoff RL: Creating the Corporate Future: Plan or Be Planned For. Wiley, New York, 1981.
- [4]. At the July 1992 AAMC conference on Information Technology in the Academic Medical Center, G. Anthony Gorry advocated envisioning and prototyping the "system after next" to guide planning and design.
- [5]. Facilitative Leadership training is offered and licensed by Interaction Associates, San Francisco.

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